

THE STATUS OF BELOSTOMATID NAMES PUBLISHED
BY J. N. F. X. GISTEL
(HEMIPTERA: BELOSTOMATIDAE)¹

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ABSTRACT: *Belostoma pallidum* Gistel is regarded as an emendation or lapsus for *Belostoma testaceopallidum* Latreille; *Belostoma fakir* Gistel is a senior synonym of *Lethocerus cordofanus* Mayr; *Iliastus* Gistel is a senior synonym of *Lethocerus* Mayr. A petition will be submitted to the International Commission on Zoological Nomenclature to conserve the name *Lethocerus*.

DESCRIPTORS: Hemiptera; Belostomatidae: *Iliastus* Gistel, *Lethocerus* Mayr, *Lethocerus cordofanus*, *Lethocerus fakir*, *Belostoma pallidum*, *Belostoma testaceopallidum*, synonymy, nomenclature, petition.

The numerous but rare works of Johannes Gistel (or Gistl) have been largely ignored by insect taxonomists; although they are recorded in bibliographies such as *Index Litteraturae Entomologicae* by Horn & Schenkling. Strand (1919) has given probably the most complete bibliography of Gistel's papers, and Horn (1924, and in Horn and Kahle, 1937) gave us some insight into Gistel's life and work.

The belostomatid names dealt with here were published in two different books with identical content as far as entomology is concerned. One work is folio size and bears the title "Naturgeschichte des Thierreichs ..." etc. It was first published in 1848, and was apparently reprinted in 1851. The second work is more comprehensive because it includes the plant and mineral kingdoms. It was coauthored with F. Bromme who was responsible for the plant and mineral section of the book. The title of this octavo size work is "Handbuch der Naturgeschichte aller drei Reiche ..." etc. Its title page bears the date 1850, but apparently at least the zoological portion was published in 1847 because the names discussed below are cited with that date by Neave (*Nomenclator Zoologicus*) and Sherborn (*Index Animalium*). However, in the bibliographic section of *Index Animalium*, the Gistel and Bromme book is dated "[1847 - 1849]" which does not help to clarify the situation. The zoological portion of the "Handbuch" is identical with the "Naturgeschichte" except for the pagination

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due to the different page sizes. The plates in the two books are different; many more insects are displayed in the "Naturgeschichte." A copy of the "Naturgeschichte" is in the National Agriculture Library, and a copy of the "Handbuch" is in the Smithsonian Institution. The location of Gistel's types, if they still exist, is unknown; but possibly they are in Munich, Germany (Horn and Kahle, 1935). For the most part, Gistel's descriptions are very brief, making identification of his taxa difficult.

Throughout the 1847 and 1848 works, Gistel cites many well-known generic and specific names usually without giving their authors, a practice common in those days. Other names are followed by "mihi", "N.", or "Nobis", indicating clearly that they are new Gistelian taxa. In the "Naturgeschichte" index these names are preceded by an asterisk. Unfamiliar names that are not followed by mihi etc., pose a problem. In some cases it is difficult to determine whether or not these names should be attributed to Gistel or to some prior author. Certain of these names appear to be emendations or misspelling of older names. Of some help in identifying Gistel names is the second section of a paper published in 1857 by Gistel entitled "Achthundert und zwanzig neue oder unbeschriebene wirbellose Thiere". Pages 54-57 of this paper contain "Neue Genera und Species von Insecten beschrieben von J. Gistel in dessen und Bromme's Naturgeschichte, Stuttg. 1848 und 1850. 8°". This is simply a list of his new taxa accompanied by a notation of the page of the "Handbuch" (1847) on which each name was published, plus the origin of the species (he described taxa from all parts of the world). As Gistel indicates at the middle of page 57, "Ueber die übrigen neuen Thiere vergleiche man das Werk selbst", the 1857 list of his new taxa is incomplete.

Kirkaldy (1906) discussed some "Naturgeschichte" Hemiptera names, but none of the belostomatid taxa were mentioned.

The belostomatid section in Gistel (1847 and 1848) consists of a few short paragraphs which are quoted below. The material is on pages 489-490 and 626 of the "Handbuch" (1847) and on pages 149 and 191 of the "Naturgeschichte". Pages 626 and 191 are found in an addendum section titled "Schluss".

Page 489-90 & 149: "I. Flusswanze (*Belostoma*)."

"Fühler 3-gliedig, etwas gekämmt. Vorderfüsse (beide) mit starken Nägeln, hintern 2-klauig, compress, breit. Rüssel reicht bis zu den Vorderfüssen. Bauch platt, scharf gerandet. Rückenschild gross, 3-eckig."

"Anm. Leben im Aequatorial-Amerika."

“Weissliche F. (*B. pallidum*). Blassgelb, einfarbig; Augen grau.-Hieher *Iliastus* (mihi) *grandis*, eine *Nepa*, unbekannt woher (in meiner Sammlung). 3” lang und 1 1/2” breit (eigens zu beschreiben). Die grösste Wanze, die ich je gesehen.”

Pages 626 and 191: “In Aegypten erscheint in den Gewässern um Cairo ein *Belostoma* (*B. Fakir*, N.), das pechbraun ist, mit dunkler pechbraunen, vorstehenden Augen begabt. Grösse von *B. grandis*.”

The first specific name, *pallidum*, appears to me to be an emendation or lapsus for *Belostoma testaceopallidum* Latreille, 1807, the type-species of the genus. It is not in Gistel’s 1857 list, and it does not have an asterisk in the “Naturgeschichte” index.

The generic name *Iliastus* is a problem. It is not in the 1857 list. Gistel indicates that this name is to be described sometime in the future (it never was), and he gives only dimensional data. Although *Iliastus* is not accompanied by a description (unless size is sufficient), the name is associated with the Linnaean species *Nepa grandis*. Thus its identity and availability are assured under Article 16(a) (v). This has important consequences because *grandis* belongs in the Giant Water Bug genus *Lethocerus* Mayr, and thus *Iliastus* is a senior synonym. This is unfortunate because *Lethocerus* has enjoyed widespread popular usage for over 60 years. The conservation of *Lethocerus* would seem to require a petition to the Commission using the provisions of Article 79(b). This would be a simple case because *Iliastus* has not been mentioned since it was published except for inclusion in nomenclators such as Neave, Schulze et al, and Sherborn, while *Lethocerus* has been used many times. It might be argued that a petition is unnecessary for the following reason: throughout his text on the belostomatids Gistel uses the generic name *Belostoma* when referring to these bugs (note that he refers *grandis* to *Belostoma* on p. 626 and 191). Consequently, one could argue that *Iliastus* is a manuscript name (“eigens zu beschreiben”) published in synonymy of *Belostoma*. According to Article 11(d) names published in synonymy are not available unless they have been adopted as the name of a taxon. The listing of *Iliastus* in nomenclators does not constitute such usage. Furthermore, the absence of *Iliastus* from the 1857 list may be an indication that Gistel did not consider the name as anything more than a manuscript name. However in the index of the “Naturgeschichte”, names of new taxa are preceded by an asterisk, and *Iliastus* has one. A secondary argument might also be made that because Gistel did not give an author for *Nepa grandis*, there is no proof that he is referring to Linnaeus’ well-known bug.

Thus *Iliastus* could be thrown out simply because it does not fulfill the provisions of Article 16. However, *grandis* is listed under *Iliastus* in the "Naturgeschichte" index without an asterisk, an indication that Gistel was referring to the Linnaean species. Because continued usage of *Lethocerus* appears threatened, I intend to submit a petition to the Commission asking for its conservation.

Belostoma fakir is definitely a new taxon, and it is listed as such in Gistel's 1857 paper. The only clues to the identity of *fakir* are that it occurs in Egypt and that it compares in size with *grandis* Linnaeus ("3" lang and 1 1/2" breit"). Only two Egyptian belostomatids approach 3 inches in length: *Lethocerus cordofanus* Mayr, 1853, and *Hydrocyrius colombiae* Spinola, 1850. The largest specimens of these species that I have seen are about 2 and 3/4 inches long and slightly over an inch in breadth. Assuming that Gistel's comparison of the relative sizes of *fakir* and his *grandis* specimen was somewhat inexact, then *fakir* could be conspecific with either *L. cordofanus* or *H. colombiae*. In his generic description of *Belostoma*, Gistel mentions the broad, flat hindlegs, characteristic of species now placed in *Lethocerus*. The hindlegs of *Hydrocyrius* are flattened but they are not as broad as in *Lethocerus*. This evidence and the fact that *Lethocerus* is more common in Egypt than *Hydrocyrius* (at least based on material I have seen in collections), leads me to the conclusion that *Belostoma fakir* Gistel [1847] is a senior synonym of *Lethocerus cordofanus* Mayr, 1853 (new synonym).

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